SOY LECITHIN AS AN IMPROVER DURING FREEZE BREAD STORAGE

Shanise LISIE MELLO EL HALAL[1], Dianini KRINGEL[1], **Martha ZAVARIZ DE MIRANDA**[2], Alvaro RENATO GUERRA DIAS[1], Elessandra DA ROSA ZAVAREZE[1]

[1]*Universidade Federal de Pelotas/Departamento de Ciencia e Tecnologia Agroindustrial/Campus Capão do Leão, Pelotas, RS, Brazil*

[2]*Embrapa Trigo, Passo Fundo, RS, Brazil*

shanisemell@hotmail.com, dianinikringel@hotmail.com, martha.miranda@embrapa.br, alvaro.guerradias@gmail.com, elessandrad@yahoo.com.br

Besides the basic formulation of breads, enzymes, lipids, hydrocolloids, emulsifiers, and some oxidants are commonly applied as additives and improvers. The emulsifiers are applied as anti-stalling agents, dough modifiers and as improvers for the production of high-protein breads. The emulsifiers retard the starch retrogradation and consequently the firmness of bread due to their ability to form complexes with amylose. The objective of this study was to evaluate the influence of soy lecithin emulsifier on the technological characteristics of breads stored under freezing. The breads were baked and cooled to room temperature for 1 h for further analysis. The breads were stored in low density polyethylene packaging at -24 °C for 0, 7, 14, 21 and 28 days. After the storage the breads were baked to evaluate the specific volume and hardness using a TA-XT2 texturometer. The breads produced with soy lecithin showed a higher specific volume and lower hardness on the first day of production as compared to the bread without soy lecithin. The breads without the emulsifier showed an increase in their firmness during storage, from 4.3 N (first day) to 11.0 N (28 days of storage). The addition of soy lecithin contributed to maintain the firmness of the stored breads from seventh to 28th day. Breads with lecithin initially presented 3.3 N of firmness, and after 7th day of storage, 6.5 N. The use of soy lecithin is a low cost alternative to increase the shelf life of frozen bakery products.

Keywords: Bread, Emulsifier, Starch retrogradation, Firmness.